

WHAT WE CLAIM IS:

1. An anti-glare and anti-reflection film comprising a transparent support having thereon, an anti-glare layer  
5 and at least one low refractive index layer superposed in this order, wherein an average mirror reflectance at an incidence of 5 degrees in the wavelength region of 450 nm to 650 nm is 1.2% or less.

10 2. The anti-glare and anti-reflection film as claimed in claim 1, wherein an average integral reflectance at an incidence of 5 degrees in the wavelength region of 450 nm to 650 nm is 2.5% or less.

15 3. The anti-glare and anti-reflection film as claimed in claim 1, wherein the coloration of a light regularly reflected to a light incident at an angle of 5 degrees from a CIE standard light source  $D_{65}$  in the wavelength region of 380 nm to 780 nm is a coloration in  
20 which  $L^*$ ,  $a^*$ , and  $b^*$  values of the CIE 1976  $L^*a^*b^*$  color space each satisfy the following formulas:

$$L^* \leq 10, \quad 0 \leq a^* \leq 2, \quad -5 \leq b^* \leq 2 \quad .$$

4. The anti-glare and anti-reflection film as  
25 claimed in claim 1, wherein the overall haze of said anti-

glare and anti-reflection film is from 3.0% to 20.0%

5        5. The anti-glare and anti-reflection film as  
claimed in claim 4, wherein the overall haze value is in  
the range of 5 to 15%.

10       6. The anti-glare and anti-reflection film as  
claimed in claim 1, wherein said low refractive index  
layer is composed of a cured product of a fluorine-  
containing resin of a type curable by heat or ionization  
radiation.

15       7. The anti-glare and anti-reflection film as  
claimed in claim 6, wherein a coefficient of kinetic  
friction of the low refractive index layer composed of  
said cured product of the fluorine-containing resin is in  
the range of 0.03 to 0.15, and a contact angle with a  
water is in the range of 90° to 120°.

20       8. The anti-glare and anti-reflection film as  
claimed in claim 1, wherein said low refractive index  
layer has a refractive index of 1.38 to 1.49

25       9. The anti-glare and anti-reflection film as  
claimed in claim 1, wherein said anti-glare layer is

composed of a polymer cross-linked by ionization radiation.

10. The anti-glare and anti-reflection film as  
claimed in claim 1, wherein said anti-glare layer contains  
5 particles having an average particle size of from 0.3  $\mu\text{m}$   
to 10.0  $\mu\text{m}$ .

11. The anti-glare and anti-reflection film as  
claimed in claim 1, wherein said particles contained in  
10 the anti-glare layer are spherical organic macromolecular  
particles.

12. The anti-glare and anti-reflection film as  
claimed in claim 1, wherein a refractive index of said  
15 anti-glare layer is in the range of 1.57 to 2.00.

13. The anti-glare and anti-reflection film as  
claimed in claim 1, wherein said anti-glare layer is  
formed from a monomer having at least two ethylenically  
20 unsaturated groups, and an oxide of at least one metal  
selected from the group consisting of titanium, aluminum,  
indium, zinc, tin, antimony and zirconium having a  
particle size of 0.1  $\mu\text{m}$  or less.

25 14. The anti-glare and anti-reflection film as

claimed in claim 1, wherein the low refractive index layer contains inorganic fine particles having an average particle size from 0.001  $\mu\text{m}$  to 0.1  $\mu\text{m}$ .

5           15. The anti-glare and anti-reflection film as claimed in claim 1, wherein the low refractive index layer contains silicon oxide particles as inorganic fine particles.

10           16. The anti-glare and anti-reflection film as claimed in claim 1, wherein the low refractive index layer is composed of a cured product of a polymer obtainable by polymerization of a fluorine-containing vinyl monomer.

15           17. The anti-glare and anti-reflection film as claimed in claim 1, wherein said anti-glare and anti-reflection film has the value of optical contact index ranging from 15% to 65% at the wavelength of 0.5  $\mu\text{m}$ , under applied load conditions of 1.57 MPa.

20           18. The anti-glare and anti-reflection film as claimed in claim 1, wherein said anti-glare and anti-reflection film has the value of clearness of the transmitted image ranging from 30% to 70%, said value  
25 being measured by means of an instrument for measuring

image clarify, using an optical wedge of 0.5 mm in width.

19. A polarizing plate comprising a polarizing layer  
and two protective films therefor, at least one of said  
5 protective films being the anti-glare and anti-reflection  
film as claimed in claim 1.

20. An image display device comprising a display  
component, wherein the anti-glare and anti-reflection film  
10 as claimed in claim 1 is disposed as the outermost surface  
layer at the display side.

21. The image display device as claimed in Claim 20,  
which is a liquid crystal display device.

15 22, An image display device comprising a display  
component, wherein an anti-reflection layer of the anti-  
glare and anti-reflection polarizing plate as claimed in  
claim 19 is disposed as the outermost surface layer at the  
20 display side.

23. The image display device as claimed in Claim 22,  
which is a liquid crystal display device.